

and male Northern Harriers has now been documented, whether such individuals do in fact attract mates and reproduce successfully remains unknown.—**Chad V. Olson, Montana Cooperative Wildlife Research Unit, University of Montana, Missoula, MT 59812 U.S.A. and Sophie A.H. Osborn, Division of Biological Sciences, University of Montana, Missoula, MT 59812 U.S.A.**

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OBSERVATIONS AT AN AYRES' HAWK-EAGLE NEST IN KIBALE NATIONAL PARK, UGANDA

The Ayres' Hawk-Eagle (*Hieraaetus ayresii*), an inhabitant of forested and wooded areas of sub-Saharan Africa, has long been considered inexplicably rare throughout its range (Brown et al. 1982, *Birds of Africa*, Vol. 1. Academic Press, London, U.K.). Its breeding behavior has been observed at no more than six nests in Kenya (Brown 1955, *Ibis* 97:38–64, 183–221; Brown 1966, *Ibis* 108:531–572; Dewhurst et al. 1988, *Gabar* 3:85–93) and Zimbabwe (Phillips 1978, *Honeyguide* 94:27–39; Steyn 1982, *Birds of prey of southern Africa*, Tanager Books, Dover, U.K.), and some aspects of its biology and ecology are still considered unknown (Virani and Watson 1998, *J. Raptor Res.* 32:28–39). Here, I present information on the nest site, breeding phenology, and behavior of a nesting pair of Ayres' Hawk-Eagles in western Uganda.

In August 1997, I located an Ayres' Hawk-Eagle nest in the unlogged K-30 forestry compartment of Kibale National Park (0°13'–0°41'N, 30°19'–30°32'E), an area of moist, evergreen forest in western Uganda. A complete description of habitat and climate are provided by Struhsaker (1997, *Ecology of an African rainforest*, Univ. Presses Florida, Gainesville, FL U.S.A.). I monitored the nest through November 1997, checking it at least twice every month. Using 10 × 40 binoculars, I observed the nest from the ground about 30 m upslope of the nest. I observed the nest for 35.5 hr during 7 d of the incubation period and 50.5 hr during 7 d of the nestling period. Adult gender was initially determined by size dimorphism, but once confirmed, the darker female was easily distinguished from the lighter male.

Located on an 18° slope with a WSW aspect, the nest tree was a live *Lovoa brownii*, 38 m tall and 98 cm diameter at breast height. The tree had no vines, few epiphytes, and the crown was completely isolated from the surrounding canopy. The stick nest was positioned at a height of 32 m, at a four-way fork of a major branch. Located near the base of the crown, the nest was plainly visible from the ground, but well-shaded from the sun. I estimated from the ground that the nest measured 1.25 m across and 0.75 m tall. When first observed on 21 August 1997, the female was already incubating. Based on the behavior of the adults, I estimated that one nestling hatched 31–33 d later, between 30 September–2 October 1997. The nestling was first observed approximately three weeks later, when its head was visible above the rim of the nest. Observations were discontinued on 24 November 1997, approximately 54 d after hatching, when the nestling was nearly fully feathered and it spent most of its time standing at the edge of the nest.

During the incubation period, the female spent most of her time at the nest, either incubating (88%) or perched nearby (5%). The female was out of sight for only 7% of this time, for periods ranging from 2–32 min. In contrast, the male never incubated, made only short visits to the nest (2–14 min) and nest tree (15–19 min), and was out of sight for 97% of this time. I observed no deliveries of prey or nesting material to the nest during incubation; possibly some prey exchanges occurred away from the nest, where the female fed before returning.

After the nestling hatched, the female remained the primary nest attendant spending 61% of the observation hours brooding or feeding the nestling. When not tending the nestling, the female was perched at or near the nest 16% of the time and out of sight of the observer for 23% of the time. The amount of time the female spent away from the nest increased as the nestling grew. As during the incubation period, the male was out of sight for most (98%) of the observation hours. The male made seven visits to the nest during the nestling period delivering nesting material twice and prey once. Possibly some prey exchanges during the nestling period also occurred at some distance from the nest. Most prey arrived at the nest apparently plucked of fur or feathers; the female spent little time handling prey prior to feeding the nestling. I checked for prey remains beneath the nest tree throughout the incubation and nestling periods, but found none. Except for an unidentified, pigeon-sized bird, I was unable to identify prey fed to the nestling.

These observations showed the breeding behavior of Ayres' Hawk-Eagle in the Kibale National Park was similar to

other regions of Africa. Although I was unable to document the complete duration of the nesting cycle, I estimated that it fell well within the 45 d incubation and 75 d nestling periods reported by Brown et al. (1982). Similar pairings of dark females with light males have been recorded at at least two nests in Kenya (Brown 1966, Dewhurst et al. 1988). There are no records of nests containing more than a single nestling and records of two-egg clutches from South Africa are considered suspect by most authors (Brown et al. 1982, Steyn 1982). Adult behavior at nests in Kenya was consistent with my observations; incubation and brooding were conducted primarily or exclusively by the female, while the male made brief visits to the nest to deliver prey and nesting material (Brown 1955, Dewhurst et al. 1988).

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A CASE OF NEST PREDATION ON TURKEY VULTURES NESTING IN ARGENTINA

The Turkey Vulture (*Cathartes aura*) is widely distributed along the American continent (May, J.B. 1935. *The Hawks of North America*. National Association of Audubon Societies, New York, NY U.S.A.) but its breeding range in Argentina is not well-known. Only three records on Turkey Vulture nesting have been published up to now. Martín De La Peña (1992, *Guía de las Aves Argentinas. Literature of Latin America* [EDS.], Buenos Aires, Argentina) found two nests in northeastern Argentina and Jerome Jackson refers to another nest found on the Falkland Islands (1983, *Nesting phenology, nest-site selection and reproductive success of Black and Turkey Vultures*. Pages 245–270 in S. Wilbur and J. Jackson [EDS.], *Vulture biology and management*. Univ. California Press, Berkeley, CA U.S.A.). Turkey Vultures have a very diversified selection of nest sites, including hollow logs, prostrate trees and stumps, sides of steep cliffs, abandoned buildings or just on the ground (Coles, V. 1938, *Studies in the life history of the Turkey Vulture* *Cathartes aura septentrionalis* Wied. Ph.D. dissertation, Cornell Univ., Ithaca, NY U.S.A.).

We found a Turkey Vulture nest in Lihue Calel National Park, La Pampa Province, Argentina in 1998. Lihue Calel National Park is located in the central region of Argentina (38°00'S, 65°35'W) and contains bare rock hills (elevation 589 m) surrounded by flat semiarid desert (elevation 300 m). Vegetation in the area is a fine-grained mosaic of open patches and scrubs, including *Larrea cuneifolia*, *L. divaricata*, *L. nitida*, *Prosopis alpataco* and *Condalia microphylla*. Each year from September–February, large flocks of Turkey Vultures are commonly observed soaring in the park but no nests have been recorded.

We found the nest on 21 November and the female was incubating two eggs in the nest. The vulture flew away as we approached the site. The eggs were weighed and measured (68.7 × 49.05 mm, mass = 82 g; 69.05 × 48.65 mm, mass = 82 g). The nest was on the north side of a hill approximately 40-m high. The nest was near the top of the hill on the ground in a circular (8 m in diameter) patch of bushes (*Geoffroea decorticans*, *Larrea nitida* and *Lycium gilliesianum*). Height of the bushes averaged 2.3 m and they were surrounded by grass and rocks. Two rocks 70-cm high protected the nest on the east and south sides. The nest was not in a depression and there were only 5 or 6 small twigs and some feathers next to the eggs.

On 26 December, we revisited the nest and found two young that we weighed and measured (950 g, total length 345 mm, wingspan 753 mm, wing chord 147 mm and culmen 17.15 mm; 1030 g, total length 358 mm, wingspan 842 mm, wing chord 172 mm and culmen 19.15 mm). Their breasts and backs were covered with down but all sheaths of primaries and secondaries extended through the down layer and remiges emerged out from their sheaths about 2–4 cm. On 12 January 1999, the young were not found in the nest and the remains of one of their wings was about 6 m from the nest. No signs or footprints of predators were found at the nest site but the nest may have been depredated by a felid, fox or reptile.

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